

REMARKS

Claims 5-7, 25-29, 31, 32, and 34-39 are currently pending in this application. Claims 5, 25, 26, 31, and 32 have been amended to further clarify certain features of these claims without disclaimer of or prejudice to pursuing the subject matter of these claims in unamended form in a continuation, divisional, or other application. No claims have been added or cancelled.

In the Office Action mailed November 9, 2009, pending claims 5-7, 25-29, 31, 32 and 34-39 were rejected. More specifically, the status of the application in light of this Office Action is as follows:

- (A) Claims 5-7, 25-29, 31, 32, and 35-39 stand rejected under 35 U.S.C. § 101;
- (B) Claims 5, 6, 25-29, 31, 32, and 34-39 stand rejected under 35 U.S.C. § 103(a) over the combination of U.S. Patent No. 6,556,711 to Koga et al. ("Koga") and U.S. Patent No. 4,996,603 to Kanemitsu et al. ("Kanemitsu"); and
- (C) Claim 7 stands rejected under 35 U.S.C. § 103(a) over the combination of Koga, Kanemitsu, and U.S. Patent No. 5,987,221 to Bearss et al. ("Bearss").

A. Response to the Section 101 Rejection of Claims 5-7, 25-29, 31, 32, and 35-39

Claims 5-7, 25-29, 31, 32, and 35-39 were rejected under 35 U.S.C. § 101. Although the applicants respectfully disagree that this rejection is proper, the applicants have elected to amend each of claims 5, 25, and 31 to recite a method that is "performed by a device having a processor." Support for this amendment may be found, for example, at pages 5 and 6 of the specification as filed, describing processing

images and text. Accordingly, the applicants respectfully request that the rejection of claims 5-7, 25-29, 31, 32, and 35-39 under 35 U.S.C. § 101 be withdrawn.

B. Response to the Section 103(a) Rejection of Claims 5, 6, 25-29, 31, 32, and 34-39 (Koga and Kanemitsu)

Claims 5, 6, 25-29, 31, 32, and 35-39 were rejected under 35 U.S.C. § 103(a) over the combination of Koga and Kanemitsu. Although the applicants respectfully disagree with this rejection, in order to advance prosecution, the applicants have elected to amend independent claims 5, 25, and 31 to further clarify certain aspects of the claimed subject matter. For example, claim 5 has been amended to recite "if a determination that the first area includes the image portion or the text portion is not made, then either marking the first area as an image area" in combination with "wherein at least one first area is marked as an image area because the determination that the at least one first area includes the image portion or the text portion is not made." Claims 25 and 31 have also been amended. Support for these features may be found, for example, at page 7 of the specification as filed, stating "In special cases, the area may not be transversely cut as step 23, vertically cut as step 24, or identified image or text, mark it as an image area (not shown in the FIG. 2)." Accordingly, the amendments to claims 5, 25, and 31 add no new matter. The applicants have amended Figure 2 to show these features (see Replacement Figure 2, step 30) as well as the appropriate portion of the specification to reflect the amendment to Figure 2. As set forth below, the applied references cannot support a Section 103 rejection of claims 5, 6, 25-29, 31, 32, and 34-39 for at least the reason that these references fail to teach or suggest all the claimed features.

Generally described, in some examples, applicants' technique is directed to identifying areas on a document that contain either images or text based on background colors. The applicants' technique includes condensing a document to create a condensed copy of the document based on a document background color (e.g., a white background) by omitting empty portions or areas of the document that contain neither

images nor text (e.g., margins on the document). The condensed copy includes areas that contain images and/or text. The applicants' technique includes transversely and vertically dividing the condensed copy into a plurality of areas (e.g., four equally spaced rectangular areas 1-4). For each of these areas, a new background color may be chosen. For example, a first area may include a blue background, and a second area may include a red background. The new background color is then used for determining whether the individual areas contain images or text. If an individual area contains images, then that particular area (including the background of the area and the images) is marked as an image area. If an individual area contains text, then that particular area (including the background of the area and the text) is marked as a text area. If a determination that an individual area contains images or text is not made, then the applicants' technique provides for recursively condensing, dividing, and identifying sub-areas until each of the areas have been identified as an image area or a text area, or marking the individual area as an image area. Accordingly, an individual area that cannot be identified as containing image or text may be marked as an image area and processed accordingly (e.g., processed as an image, which may be processed using a higher resolution or bit depth).

With regard to claim 5, Koga does not teach or suggest "if a determination that the first area includes the image portion or the text portion is not made, then either marking the first area as an image area" in combination with "wherein at least one first area is marked as an image area because the determination that the at least one first area includes the image portion or the text portion is not made." Koga describes a process in which all background image segments are extracted from an input image. (Koga, Figure 2, step 2). After extracting all background image segments, the image segments are discriminated to determine whether an image segment includes images or character. (Koga, Figure 2, step 3; see also Figure 11 and col. 14, lines 40-60). Koga does not describe that if a determination of whether the image segment includes images or character is not made, then the image segment is considered to include images. Rather, Koga describes that the image segmentation unit 3000 makes a

determination of whether an image segment pertains to a character or line drawing or a pseudo-half-tone for each image segment. (Koga, col. 17, lines 3-8.) Because Koga describes making such determinations for each image segment, Koga does not teach or suggest marking an area as an image area if a determination that the area includes the image portion or the text portion is not made. Kanemitsu fails to cure the deficiencies of Koga. For at least these reasons, claim 5 is patentable over the combination of Koga and Kanemitsu.

Moreover, Koga does not teach or suggest "determining whether the first area includes the image portion or the text portion based at least in part on the second background color," as recited in claim 5. In direct contrast with the method of claim 5, Koga describes a process in which all background image segments are extracted from an input image. (Koga, Figure 2, step 2). After extracting all background image segments, the image segments are discriminated to determine whether an image segment includes images or character. (Koga, Figure 2, step 3; see also Figure 11 and col. 14, lines 40-60). Because this discrimination step occurs after all background image segments have been extracted, the background cannot be used to discriminate between images and character. In fact, Koga describes determining whether an image segment includes image or character based on a comparison of pixels with their surrounding pixels. (Koga, Figure 20 and col. 16, line 58 – col. 18, line 49.) Determining whether an image segment includes images or character by comparing pixels with their neighboring pixels does not constitute identifying areas as containing image or text based on a background color, however, for at least the reason that the pixels in Koga's image segments do not contain any background (all the background image segments having already been extracted). Therefore, Koga fails to teach or suggest "determining whether the first area includes the image portion or the text portion based at least in part on the second background color," as recited in claim 5. Again, Kanemitsu fails to cure the above-noted deficiencies of Koga. Thus, for at least these additional reasons, claim 5 is patentable over the combination of Koga and Kanemitsu. Therefore, the Section 103 rejection of claim 5 should be withdrawn.

Claims 6, 34, and 35 depend from base claim 5. Accordingly, the Section 103 rejection of claims 6, 34, and 35 should be withdrawn for at least the foregoing reasons, and for the additional features of these dependent claims.

Independent claims 25 and 31 as amended, recite several features generally similar to those of claim 5 (e.g., marking an individual area as an image area for which a determination that the individual area contains image or text is not made). Accordingly, claims 25 and 31 are patentable over Koga and Kanemitsu for at least the reasons discussed above with respect to claim 5, and for the additional features of these independent claims. Therefore, the Section 103 rejection of claims 25 and 31 should be withdrawn.

Claims 26-29, 36, and 37 depend from base claim 25 and claims 32, 38, and 39 depend from base claim 31. Accordingly, the Section 103 rejection of claims 26-29, 32, and 36-39 should be withdrawn for at least the foregoing reasons, and for the additional features of these dependent claims.

C. Response to the Section 103(a) Rejection of Claim 7 (Koga, Kanemitsu, and Bearss)

Claim 7 was rejected under Section 103(a) over the combination of Koga, Kanemitsu, and Bearss. Claim 7 depends from base claim 5. As discussed above, Koga and Kanemitsu fail to disclose or suggest all the features of claim 5. Bearss is relied on in the Office Action for describing a dithering process that comprises a sampling mode dithering. (Office Action, p. 8.) Even assuming for the sake of argument that this is correct (and the applicants expressly do not), Bearss fails to cure the above-noted deficiencies of Koga and Kanemitsu to support a Section 103 rejection of base claim 5. Accordingly, claim 7 is allowable over the combination of Koga, Kanemitsu and Bearss for at least the reason that these references, either alone or in combination, fail to disclose or suggest the features of claim 5, and the additional features of dependent claim 7. Therefore, the Section 103 rejection of dependent claim 7 should be withdrawn.

Conclusion

In view of the foregoing, the pending claims comply with the requirements of 35 U.S.C. § 112 and are patentable over the applied art. The applicants accordingly request reconsideration of the application and a mailing of a Notice of Allowance. If the Examiner has any questions or believes a telephone conference would expedite prosecution of this application, the Examiner is encouraged to contact Joseph F. Brennan at (206) 359-6065.

Respectfully submitted,

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Attachments

APPENDIX